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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,386	02/23/2005	Toshiki Taguchi	Q86377	5587

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2100 PENNSYLVANIA AVE. NW  
WASHINGTON, DC 20037-3213

EXAMINER
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SHAH, MANISH S

ART UNIT	PAPER NUMBER
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2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/525,386

Applicant(s)

TAGUCHI ET AL.

Examiner

Manish S. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/23/05; 11/13/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-3 & 14-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 7022170.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the US Patent and is covered by the US Patent, since the US Patent and the application are claiming common subject matter, as follows as shown in Table: 1 below.

**TABLE: 1****# 10/525386 CLAIMS**

1. An inkjet recording ink comprising an aqueous medium having dissolved and/or dispersed therein at least one dye having  $\lambda_{\max}$  in a region of from 390 to 470 nm and having a ratio of an absorbance  $I(\lambda_{\max}+70 \text{ nm})$  at  $\lambda_{\max}+70 \text{ nm}$  to an absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , of 0.4 or less, wherein when a reflection density after printing an image with the ink on a reflective image-receiving medium is measured through a Status A blue filter and a point having a reflection density (DB) of 0.90 to 1.10 in a yellow region is defined as an initial density of the ink and when the printed image is enforcedly discolored by using an ozone discoloration tester capable of always generating 5 ppm of ozone and an enforced discoloration rate constant is determined from a time until the reflection density decreases to 80% of the initial density, the enforced discoloration rate constant is  $5.0 \times 10^{-2} [\text{hour}^{-1}]$  or less.

14. An inkjet recording ink comprising an aqueous medium having dissolved and/or dispersed therein at least one dye having  $\lambda_{\max}$  in a region of from 390 to 470 nm and represented by the following formula (1):  $A-N=N-B$  Formula (1): wherein A and B each independently represents a heterocyclic group which may be substituted.

2. The inkjet recording ink as claimed in claim 1, wherein the ratio of the absorbance  $I(\lambda_{\max}+70 \text{ nm})$  at  $\lambda_{\max}+70 \text{ nm}$  to the absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , is 0.2 or less.

3. A yellow ink for inkjet recording as claimed in claim 1, wherein an oxidation potential of the dye is nobler than 1.0 V (vs SCE).

15. The inkjet recording ink as claimed in claim 14, wherein an enforced discoloration rate constant of the ink for an ozone gas determined in a region of an image printed with the ink on a reflective image-receiving medium is  $5.0 \times 10^{-2} [\text{hour}^{-1}]$  or less.

16. The inkjet recording ink as claimed in claim 14, wherein a ratio of an absorbance  $I(\lambda_{\max}+70 \text{ nm})$  at  $\lambda_{\max}+70 \text{ nm}$  to an absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , is 0.4 or less.

17. The inkjet recording ink as claimed in claim 16, wherein the ratio of the absorbance  $I(\lambda_{\max}+70 \text{ nm})$  at  $\lambda_{\max}+70 \text{ nm}$  to the absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , is 0.2 or less.

18. The yellow ink for inkjet recording as claimed in claim 14, wherein an oxidation potential of the dye is nobler than 1.0 V (vs SCE).

**# 7,022,170 CLAIMS**

1. An ink for ink jet recording, which comprises a dye having: a  $\lambda_{\max}$  in an aqueous solution of from 390 nm to 470 nm; and a  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$  ratio of not more than 0.4, in which  $I(\lambda_{\max})$  is the absorbance at  $\lambda_{\max}$  and  $I(\lambda_{\max}+70 \text{ nm})$  is the absorbance at  $(\lambda_{\max}+70 \text{ nm})$ , the dye being dissolved and/or dispersed in an aqueous medium, and the dye is represented by formula (1),

$$A-N=N-B \quad (1)$$

wherein A and B each independently represents a heterocyclic group which may be substituted, wherein the ink has a forced fading rate constant of not greater than  $5.0 \times 10^{-2} [\text{hour}^{-1}]$ , in which the forced fading rate constant is decided by printing the ink on a reflection type medium, thereafter measuring a reflection density through a Status A filter, specifying one point having a reflection density (DB) in an yellow region of 0.90 to 1.10 as an initial density of the ink, forcedly fading the printed matter by use of an ozone fading tester that can regularly generate 5 ppm of ozone, and determining the time taken until the reflection density reaches 80% of the initial density, and the total amount of a cation in said ink except for a monovalent metal ion, a hydrogen ion, an ammonium ion, an organic quaternary nitrogen ion and an ion produced by the proton addition to a nitrogen atom in a basic organic material is 0.5 wt % or less.

2. The ink for ink jet recording according to claim 1, wherein the  $\lambda_{\max}$  in an aqueous solution of the dye is 390 nm to 470 nm, and the  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$  ratio is not more than 0.2.

3. The ink for ink jet recording according to claim 1, wherein the oxidation potential of the dye is more nobler than 1.0 V (vs SCE).

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3. Claims 1-3 & 14-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7083664.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the US Patent and is covered by the US Patent, since the US Patent and the application are claiming common subject matter, as follows as shown in Table: 1 & 2 below.

**TABLE: 1**

# 10/525386 CLAIMS	# 7,083,664 CLAIMS
<p>1. An inkjet recording ink comprising an aqueous medium having dissolved and/or dispersed therein at least one dye having <math>\lambda_{\text{max}}</math> in a region of from 390 to 470 nm and having a ratio of an absorbance <math>I(\lambda_{\text{max}}+70 \text{ nm})</math> at <math>\lambda_{\text{max}}+70 \text{ nm}</math> to an absorbance <math>I(\lambda_{\text{max}})</math> at <math>\lambda_{\text{max}}</math>, namely, <math>I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})</math>, of 0.4 or less, wherein when a reflection density after printing an image with the ink on a reflective image-receiving medium is measured through a Status A blue filter and a point having a reflection density (DB) of 0.90 to 1.10 in a yellow region is defined as an initial density of the ink and when the printed image is enforcedly discolored by using an ozone discoloration tester capable of always generating 5 ppm of ozone and an enforced discoloration rate constant is determined from a time until the reflection density decreases to 80% of the initial density, the enforced discoloration rate constant is <math>5.0 \times 10^{-2} \text{ [hour}^{-1}\text{]}</math> or less.</p> <p>14. An inkjet recording ink comprising an aqueous medium having dissolved and/or dispersed therein at least one dye having <math>\lambda_{\text{max}}</math> in a region of from 390 to 470 nm and represented by the following formula (1): A-N=N-B Formula (1): wherein A and B each independently represents a heterocyclic group which may be substituted.</p>	<p>1. An inkjet color ink comprising: an aqueous medium; at least one yellow dye having a <math>\lambda_{\text{max}}</math> of from 390 nm to 470 nm and an <math>[I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})]</math> ratio of an absorbance <math>I(\lambda_{\text{max}}+70 \text{ nm})</math> at <math>\lambda_{\text{max}}+70 \text{ nm}</math> to an absorbance <math>I(\lambda_{\text{max}})</math> at <math>\lambda_{\text{max}}</math> of not more than 0.4; and at least one dye having a <math>\lambda_{\text{max}}</math> of longer than 470 nm and not longer than 750 nm, the at least one yellow dye and the at least one dye being at least dissolved or dispersed in the aqueous medium, wherein in case the ink is printed on a reflection medium so as to form a stepwise density, when a light having a wavelength of a <math>\lambda_{\text{max}}</math> of the ink in a yellow region of 390 nm to 470 nm is illuminated to the printed medium, whose reflection spectrum of the light is measured by a spectrophotometer, and a point giving a reflection spectrum such that a reflection density, DB, at the <math>\lambda_{\text{max}}</math> of the ink in the yellow region, is from 0.90 to 1.10 is selected, a reflection density at a <math>\lambda_{\text{max}}</math> of the ink in a region of longer than 470 nm and not longer than 750 nm at the point is defined as DX, and the printed medium is discolored by force using an ozone discoloration tester capable of always generating 5 ppm of ozone, a forced discoloration rate constant determined from a time when each of the reflection densities DB and DX becomes 80% of an initial density is defined, and both of the rate constants are not more than <math>5.0 \times 10^{-2} \text{ hour}^{-1}</math>.</p> <p>5. The inkjet color ink according to claim 1, wherein the yellow dye is a compound represented by the following formula (1): A11—N=N—B11(1) wherein A11 and B11 each independently represents an optionally substituted heterocyclic group.</p>

**TABLE: 2**

# 10/525386 CLAIMS	# 7,083,664 CLAIMS
<p>2. The inkjet recording ink as claimed in claim 1, wherein the ratio of the absorbance <math>I(\lambda_{\text{max}}+70 \text{ nm})</math> at <math>\lambda_{\text{max}}+70 \text{ nm}</math> to the absorbance <math>I(\lambda_{\text{max}})</math> at <math>\lambda_{\text{max}}</math>, namely, <math>I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})</math>, is 0.2 or less.</p> <p>3. A yellow ink for inkjet recording as claimed in claim 1, wherein an oxidation potential of the dye is nobler than 1.0 V (vs SCE).</p> <p>15. The inkjet recording ink as claimed in claim 14, wherein an enforced discoloration rate constant of the ink for an ozone gas determined in a region of an image printed with the ink on a reflective image-receiving medium is <math>5.0 \times 10^{-2} [\text{hour}^{-1}]</math> or less.</p> <p>16. The inkjet recording ink as claimed in claim 14, wherein a ratio of an absorbance <math>I(\lambda_{\text{max}}+70 \text{ nm})</math> at <math>\lambda_{\text{max}}+70 \text{ nm}</math> to an absorbance <math>I(\lambda_{\text{max}})</math> at <math>\lambda_{\text{max}}</math>, namely, <math>I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})</math>, is 0.4 or less.</p> <p>17. The inkjet recording ink as claimed in claim 16, wherein the ratio of the absorbance <math>I(\lambda_{\text{max}}+70 \text{ nm})</math> at <math>\lambda_{\text{max}}+70 \text{ nm}</math> to the absorbance <math>I(\lambda_{\text{max}})</math> at <math>\lambda_{\text{max}}</math>, namely, <math>I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})</math>, is 0.2 or less.</p> <p>18. The yellow ink for inkjet recording as claimed in claim 14, wherein an oxidation potential of the dye is nobler than 1.0 V (vs SCE).</p>	<p>2. The inkjet color ink according to claim 1, wherein the <math>[I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})]</math> ratio is not more than 0.2.</p> <p>3. The inkjet color ink according to claim 1, wherein the yellow dye and the dye having a <math>\lambda_{\text{max}}</math> of longer than 470 nm and not longer than 750 nm have an oxidation potential nobler than 1.0 V (vs SCE).</p> <p>4. The inkjet color ink according to claim 2, wherein the yellow dye and the dye having a <math>\lambda_{\text{max}}</math> of longer than 470 nm and not longer than 750 nm have an oxidation potential nobler than 1.0 V (vs SCE).</p>

4. Claims 1-3, 13-18 & 28-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 10/771464. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the co-pending application and is

covered by the co-pending application, since the co-pending application and the instant application are claiming common subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/503764. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the co-pending application and is covered by the co-pending application, since the co-pending application and the instant application are claiming common subject matter.

Co-pending application discloses all the limitation of the instant application except that (1) at least one dye having  $\lambda_{\text{max}}$  in a region of from 390 to 470 nm and having a ratio of an absorbance  $I(\lambda_{\text{max}}+70 \text{ nm})$  at  $\lambda_{\text{max}}+70 \text{ nm}$  to an absorbance  $I(\lambda_{\text{max}})$  at  $\lambda_{\text{max}}$ , namely,  $I(\lambda_{\text{max}}+70 \text{ nm})/I(\lambda_{\text{max}})$ , of 0.4 or less. (2) The ink comprises at least one antiseptic. (3) The water-miscible organic solvent in which the dye has a solubility of 10 (g/100 g solvent) or more at 25 degree C in an amount of 10 mass% or less based on a composition of the ink.

In the above copending application, it is the examiner's position that it would have been obvious to one having ordinary skill in the art that: at least one dye having  $\lambda_{\text{max}}$  in a region of from 390 to 470 nm and having a ratio of an absorbance  $I(\lambda_{\text{max}}+70$

nm) at  $\lambda_{\max}+70$  nm to an absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , of 0.4 or less. (2) The ink comprises at least one antiseptic. (3) The water-miscible organic solvent in which the dye has a solubility of 10 (g/100 g solvent) or more at 25 degree C in an amount of 10 mass% or less based on a composition of the ink, since the dye structure and organic solvents of the copending application is the same structure as those claimed by applicants.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 14 & 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiwara (# US 2201/0029869).

Fujiwara et al. discloses an ink jet recording ink comprises an aqueous medium having dissolved and/or dispersed therein at least one dye having  $\lambda_{\max}$  in a region of from 390 to 470 nm (see Table: 1) and represented by the formula: A-N=N-B, wherein A and B each independently represents a heterocyclic group which may be substituted



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(see Abstract; [0008]-[0009]). They also disclose that the ratio of an absorbance  $I(\lambda_{\max}+70 \text{ nm})$  at  $\lambda_{\max}+70 \text{ nm}$  to an absorbance  $I(\lambda_{\max})$  at  $\lambda_{\max}$ , namely,  $I(\lambda_{\max}+70 \text{ nm})/I(\lambda_{\max})$ , of 0.4 or less, preferable 0.2 or less ([0018]).


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Manish S. Shah  
Primary Examiner  
Art Unit 2853

MSS

12/28/06